

**Abstract**

An Airborne Windshear Detection System measures wind during the Take off and Landing phase by determining the Doppler Shift of backscattered radiation that is transmitted by an on-board laser system. The collected, scattered light is mixed with a sample from the transmitting Laser using a Dual Differential Mach-Zehnder Interferometer technique. The resulting frequency shift determines the presence of dangerous windshear in the anticipated trajectory of the aircraft.

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